

Appl. No. 09/882,279  
Amdt. Dated September 14, 2005  
Reply to Office Action of 8/14/05

Docket No. CM01969G  
Customer No. 22917

### REMARKS/ARGUMENTS

Claims 1-20 remain in this application. Applicants have amended Claims 1-2, 5-13, 16-17 and 19. However, no new matter was added by these amendments. Applicants request reconsideration of this application in view of the above amendments and these remarks.

The Examiner states that an information disclosure statement was filed in the specification that fails to comply with 37 CFR 1.98 (a)(1). However, Applicants submit that no information disclosure statement was filed in this case as is demonstrated by the attached copy of the utility application transmittal that was filed with the application and also in the attached copy of a list of documents included in image file wrapper for this case, as obtained from the United States Patent and Trademark Office PAIR website. Applicants did include a cross-reference to related patent applications that were filed concurrently with the present application, which is listed on page 1, lines 5-18 of the present application. In response to the Examiner's objection, Applicants submit herewith an Information Disclosure Statement that references those related patent applications.

In addition, the Examiner has rejected Claims 1, 10 and 16-18 under 35 U.S.C. 102(b) as being anticipated by Laakso, et al. (USPN 5,898,740); has rejected Claims 1, 7, 8, 10, and 16 under 35 U.S.C. 102(e) as being anticipated by Schilling, et al. (USPN 6,868,076 B2); has rejected Claims 1-5 and 10-16 under 35 U.S.C. 102(e) as being anticipated by Miyoshi, et al. (US 2003/0071752 A1); and has rejected Claims 19 and 20 under 35 U.S.C. 102(e) as being anticipated by Li, et al. (US 2001/0053143 A1). The Examiner has further rejected Claims 6 and 9 under 35 U.S.C. 103(a) as being unpatentable over Schilling, et al. (USPN 6,868,076 B2) and has rejected Claims 6-9 under 35 U.S.C. 103(a) as being unpatentable over Miyoshi, et al. (US 2003/0071752 A1). Applicants traverse these rejections. Applicants submit that no single reference cited by the Examiner discloses, teaches and/or suggests all of the limitations recited in amended independent Claims 1, 10, 16 and 19 and included by dependency in Claims 2-9, 11-15, 17-18 and 20 as argued below in detail.

Appl. No. 09/982,279  
Amdt. Dated September 14, 2005  
Reply to Office Action of 6/14/05

Docket No. CM01968G  
Customer No. 22917

With respect to independent Claims 1, 10 and 16, each of these claims has been amended to be directed to a method using *multiple transmission passes* (i.e., "a given transmission pass" (as recited in Claims 1 and 10) or "a first transmission pass" (as recited in Claim 16) and "at least one subsequent transmission pass" (as recited in Claims 1, 10 and 16) and "at least one prior transmission pass" (as recited in Claim 10). Applicants submit that neither Laakso, Schilling nor Miyoshi discloses a method that uses multiple transmission passes.

By contrast, Laakso discloses a method using "successive interference cancellation, [where] the receiver processes *the received transmission* [i.e., from a single transmission pass] so that the signals are demodulated in a certain order, typically in the order of magnitude, regenerated and reduced from *the received transmission*, whereafter the following signal is processed in the same way until all of the signals have been processed" (col. 3, line 65 to col. 4, line 4). Schilling discloses an "interference canceler" (Title; FIG. 1, col. 2, lines 28-29) for processing "*a received spread spectrum CDMA signal* [i.e., in a single transmission pass]" (col. 4, line 17) comprising a "plurality of channels" (Abstract). The interference canceller uses a plurality of delay devices and subtractors (FIG. 1) wherein the "received spread-spectrum CDMA signal . . . is delayed" (col. 5, lines 65-66) and "for each of the plurality of channels [in the received spread-spectrum CDMA signal], others of the plurality of channels are subtracted from *the received signal* and a result of that subtracting is despread as data for that channel" (Abstract; col. 1, lines 35-39). Miyoshi discloses a "multi-stage type interference canceller" (par. [0028]) that "consists of an antenna followed by three stages. . . In each stage. . . except the final stage, when *a received signal* [i.e., comprising multiple user signals from a single transmission pass] is input to an interference canceller unit [ICU] corresponding to the user, the ICU generates a replica of an interference signal for each user signal, subtracts the generated replica from *the received signal* and thereby removes interference. . . By following such a procedure, the interference canceller apparatus improves the precision of replicas stage-by-stage and eliminates interference" (par. [0028]).

Appl. No. 08/982,279  
Amdt. Dated September 14, 2005  
Reply to Office Action of 8/14/05

Docket No. CM01968G  
Customer No. 22917

Accordingly, since a method or apparatus that uses multiple transmission passes is not disclosed in either Laakso, Schilling or Miyoshi, it follows that none of these references discloses "determining, based on a code channel selection method that uses predetermined information, a set of code channels that the signal from the first source device will be received over in at least one subsequent transmission pass" as is recited in amended Claims 1, 10 and 16. Moreover, none of the references discloses two or more source device signals being received on a single code channel as is disclosed in the language "a received signal comprising signals transmitted from a plurality of source devices over a second code channel" (as recited in Claims 1 and 10) and in the language "a number of code channels each having colliding signals from at least two source devices" (as recited in Claim 16).

By contrast, both Laakso and Schilling explicitly disclose a plurality of signals received from source devices, wherein each signal is received over a *different* code channel, *see, e.g.*, Laakso at col. 3, lines 19-23 and col. 4, lines 49-53, "the base station. . . distinguishes the transmissions of different terminal equipments from each other on the basis of the spreading code [i.e., code channel] used by each respective terminal equipment", the "receiver. . . comprises a plurality of adapted filters or RAKE receivers, which are each adapted to receive and demodulate the signal of one user, which signals may be distinguished from each other on the basis of the spreading code"; and Schilling at col. 3, lines 29-34 and line 67 to col. 4, lines 2-3 and 7-12, "The plurality of spread-spectrum-processing means uses a. . . delayed version, of the plurality of chip code signals [i.e., code channels], for spread-spectrum processing the plurality of despread signals, respectively, with a chip-code signal [i.e. code channel] corresponding to a respective despread signal. . . The term "chip-code signal" is used herein to mean the spreading signal of a spread-spectrum signal, as is well known in the art. Typically the chip-code signal is generated from a pseudorandom (PN) sequence. . . The first PN sequence is defined by or generated from a first chip codeword, the second PN sequence is defined by or generated from a second chip codeword, through the  $N^{th}$  chip codeword. Each of the first chip codeword, second chip codeword through  $N^{th}$  codeword is distinct, i.e., different from one

Appl. No. 09/982,279  
Amdt. Dated September 14, 2005  
Reply to Office Action of 6/14/05

Docket No. CM01969G  
Customer No. 22917

another.” Miyoshi discloses a received signal comprising multiple user signals (as discussed above) but in no way discloses explicitly or implicitly that any two or more of the multiple user signals are received on the same code channel.

For all of these reasons, Applicants believe that amended independent Claims 1, 10 and 16 are now in a condition for allowance and that Claims 2-9, 11-15 and 17-18 that, respectively, depend from and include all of the limitations recited in Claims 1, 10 and 16 are likewise in a condition for allowance.

With respect to Claim 19, this claim has been amended to recite the limitations of “determining that a collision between at least two source device transmissions has occurred on the code channel”, which is not disclosed in Li. Moreover, Li et al. is credited by the examiner for anticipating “estimating the variance of an absolute value of a signal and based on the step of estimating, determining that a collision has occurred on the channel when the estimated variance exceeds a predetermined threshold” (recited Claim 19). A search of Li reveals *no occurrence* of the words “absolute value” or “collision”. The phrase “predetermined threshold” (*see par.* [0056] of Li) is used only in the context of error coding, which is not the context of Claim 19 (collision determination); and the word “variance” (*see pars.* [0027], [0061], and [0070] of Li) is only used in the context of the Gaussian noise parameter (in [0027]) and in the error for a *spatial* channel estimator (in [0061] and [0070]), again not in the context of collision determination (Claim 19).

In light of the fact that there is no mention in Li about collisions, it is hard to understand how Li could be construed as anticipating Claim 19, since the determination of collisions is recited in Claim 19. Applicants do not dispute that Li does indeed disclose receiving a signal over a channel. However, Li in Eq. (23), paragraph [0061 and following], does not estimate a variance of an absolute value of the *signal*. Li minimizes the normalized expected value of the square of the norm of the difference between the estimated and actual spatial channel model  $H_{ij}$ . Note  $H_{ij}$  is the model of a *spatial channel between two antennas*, a mathematical abstraction of the complicated physics describing the electromagnetic propagation between two points in space.

Appl. No. 09/982,279  
Amdt. Dated September 14, 2005  
Reply to Office Action of 6/14/05

Docket No. CM01969G  
Customer No. 22917

This would not be interpreted as a signal by someone of ordinary skill in the art, and as such it is not something that would ever be compared with a threshold as part of a detection process.

Based on the above, Applicants believe that amended Claim 19 is now in a condition for allowance and that Claim 20, which depends from and includes all of the limitations of Claim 19, is likewise in a condition for allowance.

The Applicants believe that the subject application, as amended, is in condition for allowance. Such action is earnestly solicited by the Applicants.

In the event that the Examiner deems the present application non-allowable, it is requested that the Examiner telephone the Applicant's attorney or agent at the number indicated below so that the prosecution of the present case may be advanced by the clarification of any continuing rejection.

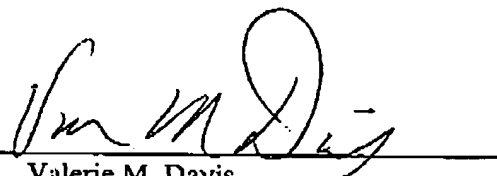
Please charge any fees that may be due to Deposit Account 502117, Motorola, Inc.

Respectfully submitted,

SEND CORRESPONDENCE TO:

Motorola, Inc.  
1303 East Algonquin Road  
IL01/3<sup>rd</sup> Floor  
Schaumburg, IL 60196  
Customer Number: 22917

By:



Valerie M. Davis  
Attorney of Record  
Reg. No.: 50,203

Telephone: 847-576-6733  
Fax No.: 847-576-0721

Attachments